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ABSTRACT

This annual newsletter is intended to foster research in the area of cognitive behavior modification (CBM), to influence the dialogue between behavior therapists and semantic/cognitive therapists, and to bridge the gap between practitioners and researchers. By summarizing what projects are currently underway, what materials are available and where research is being conducted, it is hoped that the research process will be advanced. Moreover, yearly updates can indicate areas where research is still needed. The major feature of this issue speaks to the use of CBM with adults. (Author/JLL)

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COGNITIVE-BEHAVIOR MODIFICATION NEWSLETTER

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U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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TABLE OF CONTENTS

BY WAY OF INTRODUCTION 3

A YEAR'S TALLY 3

CBM WITH CHILDREN 5

CBM WITH ADULTS 21

Self-instructional training with adults 22

CBM approaches in the treatment of anxiety 25

Cognitions supplementing behavior therapy procedures 29

Integration of behavior therapy and cognitive restructuring techniques 30

A skills-oriented stress inoculation CBM approach 34

From anger to pain 35

A confluence of interests 37

Of scientists and athletes 38

ADDENDA 40

REFERENCES 42

ADDRESSES 54

BY WAY OF INTRODUCTION

The reaction to the first newsletter has been quite positive, and I will attempt to continue the effort on an annual basis. Recall that the purpose of this newsletter is to foster research in the area of cognitive-behavior modification, to influence the dialogue between behavior therapists and semantic/cognitive therapists, and in general to bridge the gap between practitioners and researchers. By summarizing what projects are now underway, what materials are available and who is doing what, where, the hope is to nurture and influence the research process. Moreover, yearly accounts can indicate areas where research is still needed, replications that need to be undertaken, theoretical speculations that are yet to be formally offered.

As in the last newsletter, let me invite your contributions and reactions. The newsletter is not a comprehensive bibliographic search, but rather a way for me to keep my files in order, to summarize my correspondence and reprints. I hope that I have not offended anyone by including him/her or omitting him/her from the newsletter. I depend on your input. In this regard I am grateful to Michael Mahoney, Aaron Beck and others for contributing to the present newsletter. Special appreciation must be offered to my Department of Psychology at University of Waterloo (Robin Banks, Chairman) for their financial and secretarial support and to Albert Ellis and Janet Wolfe of the Institute for Advanced Study in Rational Psychotherapy for a grant to help defray mailing costs. In regard to costs, I am making the newsletter available free as long as possible, but I do require your cooperation. Since there are a limited number of copies would you kindly share your copy with others at your setting rather than have each interested party receive his or her own copy. If you do not wish to keep this copy then kindly return it so it can be recirculated or pass it on.

A YEAR'S TALLY

What has been accomplished in the last year in the general area of "cognitive-behavior modification" (CBM). That is a difficult question to answer and surely you will draw your own conclusions, but let me offer my own accounting sheet. The predominant characteristic has seemed to be "activity". More and more investigators have conducted research on replications and extensions and we are now beginning to learn where the procedures work, and most importantly, where they do <u>not</u> work. One of the byproducts of this activity is that a host of therapy manuals describing the treatment interventions have been written. This is a very significant step, for investigators in other laboratories can now try the procedures. (I will describe below what manuals are available.) In short, most of the activity was confined to treatment outcome studies: Is CBM relatively more effective than treatment X and some control group? Can CBM be applied to the following population, either in the form of a set of case

studies or in a comparative study? Such studies are described in the newsletter.

The question remains, if such CBM procedures work, then why? Two research strategies have been offered to answer this question. One strategy is the general dismantling procedure of taking the "cocktail" of CBM therapy apart in search of the olive, vermouth and gin -- or specific and non-specific factors. We will see that some investigators, especially those working with self-instructional procedures with children, and those working on the treatment of laboratory pain with adults are pursuing this strategy. More work needs to be done in this area. However, another and perhaps more difficult research tack, is to conduct programmatic research of the nature of "deficits" in order to discern the contribution of cognitive factors to particular behavior disorders. Do the subject's cognitions in the form of private speech, automatic thoughts, images, beliefs, etc. contribute to the behavioral deficit? Such research that has been conducted will be highlighted and it will be argued that the primary need in the field at this stage is just such systematic studies. The information from these investigations can guide our therapeutic interventions. A related area that has received little or no attention is how particular thinking styles develop. For example, I will describe the work by Aaron Beck and his colleagues on the contribution of cognitive factors to adult depression. The need to measure the forerunners of such thinking styles in children, as well as in non-depressed adults, seems terribly urgent. Another way to consider this question is to wonder about the developmental manifestations of Albert Ellis' irrational beliefs. From a preventative viewpoint I can think of no more important, yet perhaps more difficult, research task. Some suggested lines of research will be described.

Finally, it seems that the field of behavior therapy has adopted an atheoretical stance. Whether it is Perry London appropriately calling for an "end of ideology" or Arnold Lazarus counseling us to use that "which works", we have become overly concerned with what I have come to call "engineering" problems. Does this procedure work better than that procedure with this population, etc., etc.? Indeed, in the last newsletter I suggested that we have different ways of viewing our client's internal dialogues, and that we could conceptualize them as behaviors per se, as reflections of cognitive styles and faulty belief systems, as inadequate problem-solving and coping skills, as defence mechanisms, etc., with each conceptualization yielding different forms of treatment interventions. I went on to suggest that we might find that our task is to match the most useful conceptualization and treatment regimen with each client's specific problem and goals of treatment (i.e., an adaptive treatment approach of "different strokes for different folks").

I have come to realize that if the research task is framed in this fashion then we will merely foster innumerable comparative studies, all addressed to "engineering" problems. Not that engineering problems are unimportant. But perhaps we can short-circuit some tedious and expensive comparisons by engaging in theory construction (not ideology). We have now reached the major vacuum that exists in the area of CBM, namely efforts, although somewhat early, but nonetheless necessary, to <u>theorize</u> about the role of cognitive processes in behavior change (e.g., see the beginning attempts by Kanfer (1975), Meichenbaum (in press), Mischel (1974).

In summary, the year has witnessed some important replications and extensions of CBM procedures, initial attempts at assessing the role of cognitions in maladaptive behavior, but the absence of sufficient debate concerning the best conceptualization of our clients' internal dialogues. Hopefully, the forthcoming conference on cognitive-behavior therapy research in the New York Hilton Hotel on April 3, 1976 will serve as a necessary catalyst. Information about the conference is available from Dr. Janet Wolfe (see back of the newsletter for address). Also Janet hopes to make audiotapes of the conference available.

As we turn to what is happening in the area of CBM I am reminded of two quotes: one from Neal Miller and one from Allan Paivio.

Neal Miller (1974) admonished us concerning behavioral intervention procedures that "we should be bold in what we try and cautious in what we claim". Let me make it clear that the present newsletter offers few claims. Rather it offers a progress report on the state of the CBM field.

The second quote by Paivio offers a cavaet or warning:

> "Skinner warned us against the diversionary effects of fascination with inner life. I agree that the possibility is omnipresent. Mentalist ideas are so seductive that one is in danger of being led by them down the garden path of introspection and mysticism forever. For that reason, perhaps only a tough-minded behaviorist can afford to entertain the seductress" (Paivio, 1975).

Thus forwarned, let's see what our behaviorist and nonbehaviorist colleagues have done to tame the seductress. (Investigators' complete addresses are listed at the end of the newsletter.)

CBM WITH CHILDREN

Bonnie Camp (Univ. Colorado Med. School, Denver) has been most active in developing self-control programs for young aggressive boys. Her therapy manuals follow from a deficit study (Camp, 1975) in which she compared agressive and normal boys (77-97 mos.) on a host of mediational tasks. The results indicated that "young aggressive boys fail to employ verbal mediational activity in many situations where it would be appropriate and when it does occur, covert mediational activity may fail to achieve functional control over behavior". In short, although the aggressive children's verbal development is adequate, they fail to use these abilities to think through and plan solutions. The similarity of findings between this Camp study on aggressive children and the Meichenbaum (1975) research on impulsive preschoolers is striking. Both populations tend to emit verbalizations while doing tasks, but the majority of their verbal output is immature, self-stimulatory and often irrelevant to the task. The need to examine these results longitudinally is apparent. Also there is a need to replicate Camp's findings with more clinically hyperaggressive population.

In order to compensate for the observed deficits in aggressive boys Mary Ann Bash and Bonnie Camp developed a Think Aloud Program -

Group manual. Bash and Camp have nicely combined the work of a number of investigators (e.g., Meichenbaum & Goodman, 1972; Spivack & Shure, 1974; Palkes, Stewart & Freedman, 1972; Bornstein & Quevillon, in press) in order to develop a creative comprehensive, 13-session training manual. Some unique aspects of the approach include the ability to train in small groups and the attempt to extend self-instructional training to the social domain.

The initial results with the think aloud program are cautiously positive (see Camp et al., 1976). In the study twelve aggressive second grade boys received daily half-hour sessions for six weeks, with the result of improved performance on reaction time, impulsivity, maze performance, performance IQ, reading achievement and classroom behavior, all relative to control groups. One shortcoming of the initial training format, which Camp et al. note, is that the think aloud program did not sufficiently attend to (1) the aggressive child's silliness and verbal activity which often interfered with treatment goals; (2) the negative or "bad" connotations of acting aggressively were not sufficiently emphasized.

Although such a manual can always be improved, it is a very important step in the development of a technology to teach children to "think before they act". The "Think aloud" manual is available from Dr. Camp for $5.00. I have a few copies of the manual that I could lend to people for perusal.

I would like to make one other observation concerning the "Thinking aloud" program. In our lab, we felt that the training manual held potential therapeutic value for populations other than aggressive boys. At Waterloo, Steffen Demjen piloted the procedure, with some alterations, on a retarded population. The retarded Ss had to first be taught the meaning of certain concepts, such as "slow" and "fast", and then they were trained to modulate their own behavior by talking to themselves using these concepts. The treatment format included the E's first cognitively modeling and the S's rehearsing self-statements, initially overtly and then covertly. The promise of training cognitive strategies in retarded individuals was noted recently by Wambold and Hayden (1975) and Wanschura and Borkowski (1975). The focus of attention in these studies was the usefulness of teaching cognitive strategies to retarded subjects to use on a circumscribed task such as paired associate learning. However, the full potential of teaching cognitive strategies (a la Camp) has not been fully explored. We are also exploring the potential of the self-instructional training with a frontally-brain-damaged child. Some encouragement for the use of self-instructional training with brain damaged individuals comes from the clinical application reported by Kanfer and Philips (1970, p. 389). Their brain damaged male patients were successfully taught to give themselves verbal instructions aloud before undertaking simple motor tasks. At first a therapist carried out parallel instructions and activity to serve as a model. As the patient acquired skill in self-instruction, this help was gradually faded.

Still another example of the possible application of self-instructional training was offered by Tarnopol (1969) who described how a child with marked learning disabilities was taught to guide his visual tasks by giving himself verbal directions. "To learn how to put a puzzle together, for example, he would have to tell himself verbally how to group the pieces and what to look for in selecting the next piece." (p. 218). Interestingly, Harris (St. Paul, Minn.) is

exploring the potential usefulness of self-instructional training procedures with deaf children by means of teaching them to sign to themselves in self-controlling ways when frustrated. Such training regimens as described by Kanfer and Phillips and Tarnopol are consistent with the training programs developed by Meichenbaum with hyperactive children and by Camp with aggressive children. Moreover, such a self-instructional training procedure may be used for diagnositic purposes. Imagine assessing a deficit and then noting whether performance varies in response to E's instructions or S's self-instructions. Which deficits are and which are not modifiable by language?

Finally, Margaret Simmons and Bonnie Camp have developed a "Great expectation" manual to deal with the aggressive child's poor self-esteem, which is often a byproduct of doing poorly on tasks because of his impulsivity. Included in the package are relaxation exercises as well as cognitive training.

The Camp research program nicely illustrates the linkage between deficit research and treatment intervention. The training manuals can be improved. Indeed, in five years, with your input, hopefully the present manuals will be much improved. If you try the manuals and have reactions or suggestions please pass them along to me as well as Dr. Camp. The availability of such manuals are an important first step!

"Let us, then be up and doing,
With a heart for any fate;
Still achieving, still pursuing,
Learn to labor and to wait."
H. W. Longfellow

With these words from Longfellow, Barbara Keogh (UCLA) and Judith Margolis (Calif. State Univ.) conclude their interesting article on attentional problems in children with learning disorders (1975). The ability to delay and reflect are indicated as important skills required for achievement. As we will see, a number of treatment interventions are designed to enhance these skills.

One treatment intervention is medication. In an excellent article, Carol Whalen (Univ. Calif., Irvine) and Barbara Henker (UCLA) have reviewed the literature on psychostimulants and childrer (in press). They provide a sociocognitive analysis of drug effects. They highlight the observation that stimulant medication is a powerful source of attributional change in both children and others. They indicate that children have a great deal to tell us (if we would only ask and then listen) about the treatments they receive, including medication (see their interview schedule for children). Thus, what the child and his parents say to themselves (attributions, expectations, etc.) about the child's behavior and medication is likely to prove quite important in the change process. We will see that a similar attributional analysis can be applied to the study of drugs with depressives. The therapeutic impact of such medication must be viewed as having more than just pharmacological effects. Perhaps the changes we observe when a hyperactive child receives ritalin or a depressive receives imprimamine is due to both

pharmacological processes as well as the impact of the medication on the client's internal dialogue.

The promise of an attributional analysis was further widened in a study by Daphne Bugerthal (Univ. Calif., Santa Barbara), Whalen and Henker (1975). Hyperactive boys were individually tutored for 2 months in a classroom setting; half instructed in self-controlling speech, and half given social reinforcement. Within each treatment group half the Ss were on ritalin. Significant interactive effects were found between the intervention approach and attributions. "Luck" attributors showed greater improvement following reinforcement method whereas "effort" attributors benefitted from self-control training. The lesson of the potential value in matching a child's attributional style with attributional assumptions in an intervention package is evident. One implication of these findings is that psychostimulant treatment could readily be supplemented by CBM treatment. Such an argument is put forth by Virginia Douglas (1975) who asks "Are drugs enough?" She describes her self-instructional training program for hyperactive children as follows:

"Our approach involves choosing tasks which can be solved only by careful looking, listening, or moving and for which a plan or strategy is required before action is taken. We make clear to the youngster that his ways of tackling problems of this kind are leading to difficulties and that we are going to help him learn better ways. Emphasized is the need to say aloud, before beginning, exactly what the task involves and how he is going to go about solving it. Then the therapist begins to solve the problem while modeling these kinds of behaviors and verbalizing his goals and strategies aloud.

When the therapist is completing a jigsaw puzzle, for example, he talks aloud about how he is organizing the pieces according to color and how he is going to begin by trying to find some of the "straight" pieces that will form the edges of the picture. If he is working on a maze, he mentions the need to stop at choice points and plan his next step carefully. Since the children do not seem to take the trouble to "rehearse" to themselves material that is to be remembered, we also use a variety of games to teach them to do this.

In some of the tasks the child and the therapist take turns giving each other explicit instructions the other must follow. In one task, for example, each participant uses colored blocks to produce a pattern behind a screen where the other cannot see it. He must verbally record aloud each step he takes in forming the pattern, and it is then the job of the other participant to reproduce the pattern exactly. When the therapist is modeling for the child, he also deliberately makes errors and calmly notes aloud how he is going to go about correcting them.

The tasks we have used thus far include various kinds of games, problems, puzzles, home problems and projects, and academic assignments. We have also set up role-playing situations with puppets and, sometimes, with another youngster. Again, the social situations portrayed emphasize the kinds of problems typically created by these children's impulsive tendencies. We may try, for example, to get them to slow down and consider what another person's needs or intentions may be. It is important to stress that once we feel confident that the child is beginning to get his impulsive tendencies under his own verbal control, we gradually help him to "talk to himself" less and less loudly, so that eventually the verbalizations are completely silent. We also emphasize throughout the training that the skills and

strategies the child is learning apply equally well at play, at home, and at school. Generalization of the strategies outside of the therapy sessions is encouraged by enlisting the child's parents and his teacher from the beginning as co-therapists. Every effort is made to help them become effective modelers and reinforcers of the behaviors being taught in the therapy sessions" (pp. 206-208).

Another implication of the Rugenthal et al. study is the need to tailor treatment intervention to subject characteristics. The need for such matching is further illustrated in the deficit study of impulsive children by Bush and Dweck (1975) (Univ. of Illinois, Champaign). They determined the situational conditions under which cognitively reflective children alter their response style while impulsive children seemed to remain more insensitive to these task demands. For example, reflectives exhibit long latencies on the MFF but short latencies on speeded tasks according to the requirements of the situation. The difference between reflectives and impulsives seems to be in their evaluation of the task demands and their subsequent flexibility in response style. Thus CBM training of such children should be aimed at increasing attention to and utilization of situational cues rather than encouraging a stereotyped response style.

Phil Bornstein and Randal Quevillon (Univ. Montana) demonstrated the long-term effects of self-instruction training with three overactive preschool boys (not on medication) (in press). Using a multiple baseline design they demonstrated transfer from experimental tasks to classroom situations. These gains were maintained at a followup period. The observed generalization over settings and time is quite important.

Inge Wagner (Bonn, W. Germany) has summarized her very active research program on impulsivity and on the modification of cognitive strategies. Her form of intervention includes parents and teachers, as well as trainers. She has also made two educational films (in German) of children undergoing self-instructional training. There is a clear need for such demonstration films in English.

A. Finch and his colleagues (Virginia Treatment Center) have conducted a study (Finch, et al., 1975) on the effectiveness of self-instructions in modifying cognitive style with emotionally disturbed boys. Relative to a delay training group and a control group the self-instruction group made fewer errors on a match to sample task. This finding replicates results by Meichenbaum and Goodman (1971) but with a more severe population. Both the delay group and the self-instruction group slow down, but only the latter make fewer errors.

Philip Kendall (Virginia Commonwealth Univ.) and A. Finch (1975) offered a multiple baseline case study of a nine-year-old boy who was treated with a combination of verbal self-instructions and response costs. Improvement in Matching Familiar Figures Test (error and response time) was evident at a 6 month followup. They concluded that "the generalization of the behavior changes appears to be both desirable and widespread".

Sally Goodwin and Michael Mahoney (Penn. State) also offer an interesting set of case studies (in press). They employ cognitive modeling in the form of a circle game to alter behavior in aggressive

hyperactive boys between the ages of 6 and 11. The circle game involves having children taunt a child in the center of the circle. Prior to a child's taking a turn in the center he is exposed to a videotaped model with dubbed in thoughts and instructional commentary that cognitively models how to cope with such provocations. The therapist supplements the modeling with coaching and practice. One is reminded of the work by Ray Novaco (Univ. Calif., Irvine), who developed a cognitive behavioral treatment for adults who have problems with anger (see below for description). A child's version of the Novaco package, using techniques such as those developed by Goodwin and Mahoney would prove quite interesting. Each of the case studies by Kendall, Goodwin, etc. raise more questions than they answer. Such articles usually conclude with a proposal for a program of needed studies.

The role of language in mediating aggressive behavior was suggested in a study by Ron Slaby, Richard Keefe and Karin Frey (Univ. Washington) who reported (1975) that children trained to select and speak aggressive words subsequently showed increased aggression. Although a variety of demand characteristics in the study prevent clear interpretation, the possibility of using a verbal conditioning paradigm to study the relationship between verbal response classes and behavioral response classes is worth considering.

Central to the CBM approach is the altering of the subject's cognitive strategies. Gagne and Briggs (1974) have characterized cognitive strategies as a special kind of skill that governs the individual's own learning, remembering and thinking behavior. "A cognitive strategy is an internally organized skill that selects and guides the internal processes involved in defining and solving novel problems. In other words it is a skill by means of which the learner manages his own thinking behavior.... Cognitive strategies have as their objects the learner's own thought processes. Undoubtedly, the efficacy of an individual's cognitive strategies exerts a crucial effect upon the quality of his own thought" (Gagne & Briggs, 1974, p. 48, emphasis added). There is now considerable evidence documenting the importance of subject generated mediational strategies in children's learning (see, for example, Gibson & Levin, 1975; Rohwer, 1972).

Characterized thus, cognitive strategies are similar to Skinner's (1968) self-management behaviors. CBM procedures are designed to teach such self-management skills, to teach children "how" to think (not what to think). The following investigations illustrate this approach.

Douglas Denney (Univ. Kansas) reported a study (Denny, 1975) in which 6, 8, and 10 year olds were given training to enhance constraint-seeking questioning and problem solving strategies. He demonstrated the usefulness of a cognitive model and self-rehearsal in teaching interrogative strategies. Interestingly, the relative effectiveness of the different information processing strategies interacted with the child's age. Denney's findings raise the important distinction between the acquisition of new behavior versus the elicitation of behavior already existing within the observer's repertoire. Denney reported that the use of self-rehearsal following the modeling may have interfered with the learning of interrogative strategies. Whereas such self-rehearsal following cognitive modeling

helped impulsive children (Meichenbaum & Goodman, 1972), there may be certain cognitive domains in which the self-rehearsal interferes with learning. For example, Howie (1975) found that the more the model was augmented with verbal cues, the more efficiency there was in teaching cognitive strategies. The strength of the self-instructional training package, which includes cognitive modeling and overt and covert rehearsal, is that it can be individually tailored to each child's ability and to the targeted behavior. See Denney and Denney (1974) and Denney and Connors (1974) for a comparison of exemplary and cognitive models with aged and preschool populations. The possibility of providing the aged with such "cognitive prosthesis" has been commented on by Meichenbaum (1974).

Recently, Gisela Labouvie-Vief and Judith Gonda (Univ. Wisconsin) successfully trained sixty, female, elderly subjects (ages 63 to 95) in covert, self-monitoring strategies for complex reasoning problems. They compared four groups: cognitive training, anxiety training, nonspecific training and no training. The cognitive training followed the general modeling and overt-to-covert training paradigm, with the focus on planning and self-guidance, whereas in the anxiety group the focus of the self-statements was on overcoming performance anxiety and coping with failure. Nonspecific training involved exposure to the training tasks of inductive reasoning problems -- a sort of discovery learning approach without explicit modeling. On immediate posttesting the cognitive training group performed most effectively, while at the two-week-delay period the cognitive training group did not differ from the nonspecific group. These findings were evident on a transfer test (Raven's Matrices). Two promising results come from this study: first, the improvement that accrued from cognitive training; but perhaps even more impressive is the performance of the nonspecific training group. This latter finding raises the interesting possibility of combining a discovery-type learning with explicit cognitive modeling. This suggestion is in accord with our own experiences with self-instructional training. When we began teaching cognitive strategies to impulsive children we were very explicit and highly structured in order to maintain the impulsive children's attention. However, in our recent self-instructional work on teaching reading comprehension skills (Bommarito & Meichenbaum, 1976) to ten- to twelve-year-olds and memory recall strategies to school children (Asarnow, 1976) we have adopted much more of a "Socratic dialogue" approach in which the child is given the task to generate inductive reasoning rules, which the trainer can then "try on", while doing the task. In turn, the E shapes the strategies that the child can then employ. The goal is to have the child learn a set of "metarules" (i.e., strategies of "how to generate rules"). Children are taught to talk to themselves, to ask themselves "What is it I have to do? Let me make a plan to do this task? What are the reminders I have to give myself? How am I doing? etc.". Surely, one may have to teach Ss how to answer such questions!

Back to the aged. Such a strategy approach seems to underlie the mode of intervention by Boaz Kahana (Oakland Univ., Michigan). The focus of his group sessions with the elderly is to develop adaptive coping strategies and problem solving skills. The papers by Denny, Meichenbaum, Labouvie-Vief, Kahana, and the more recent work of Baltes (Penn. State) underscore the potential applicability of CBM procedures for the aged. A somewhat different, although related approach to

helping the elderly was offered by Keller et al. (1975). They employed rational-emotive therapy procedures (RET) with the elderly.

As indicated in the last issue of the newsletter, George Spivack and Myrna Shure (Hahnemann Hospital, Phil.) have developed a most impressive problem-solving approach. Training in two types of social reasoning and related linguistic concepts has shown significant increases in social reasoning abilities, and most importantly, and rather uniquely for a training study, has shown significant and enduring positive effects on social behavior with peers. One type of reasoning involved the child's ability to think of alternative solutions to simple conflict situations with peers. Another related ability was the child's prediction of what was likely to happen if his solution were to be put into effect. The focus of training is not on what to think but rather how to think about interpersonal problems. Bonnie Camp has made such training central to her think aloud program. Spivack and Shure have a host of materials, including training manuals for teachers and parents, as well as problem solving tests. For example, Shure and Spivack have developed a training script for parents of young children to teach problem-solving. Their approach bears careful examination and investigation. More research is needed on the nature of the deficit in children's problem-solving. Is it that the correct response (i.e., a particular alternative) is not in the child's repertoire or that poor problem solvers only give the most dominant, impulsive alternative? Such questions have implications for how we study the nature of the deficit and our mode of intervention. Thus, if we give a means-ends problem solving test (i.e., a test that states a problem, offers a solution, and asks the child to fill in the intermediary steps), then shall we only ask the child for his one answer or should we test limits, manipulate inputs, etc. Such an approach to understanding deficits, described by Meichenbaum (in press) as a "cognitive-functional" approach assessment, is needed to study Spivack and Shure's poor problem solvers. Another interesting research approach would be to identify children who differ on social problem tests such as Spivack and Shure's PIPS (preschool interpersonal problem-solving scale) and then perform an ethological observational study a la Barker and Wright of these children. What are the behavioral manifestations of these different thinking styles?

Gerald Stone (Univ. W. Ontario) and his colleagues William Hinds and Gilbert Schmidt have applied the D'Zurilla-Goldfried problem-solving approach to elementary school children (1975). Using taped vignettes for interactions purposes and picture games they were able to teach problem-solving skills. The pictures taught the children to distinguish between facts, choices, and solutions. Information about the program is available from William Hinds (Michigan State). The approach holds more promise than it has thus far offered. This article is a beginning, worth pursuing.

Carolyn Shantz (Wayne State) has reviewed the developmental literature on social cognition (Shantz, in press). At the outset I raised the question of how the adult comes to hold the beliefs outlined by Ellis or engage in the thinking styles described by Beck. A beginning point will be the careful examination of the research on social cognition.

Carol Dweck (Univ. Illinois) and her colleagues have perfcrmed some of the best research on children's attributions as contributors to "learned helplessness". For example, Dweck & Reppucci (1973) found that following failure, a certain group of children dc nct perform the response required to succeed, even though they are motivated to and are fully capable of doing so. The children who gave up in the face of failure tended to take less personal responsibility for success and failure and tended to attribute consequences to ability rather than effort. Dweck and Reppucci suggested attribution retraining as a potentially promissing treatment intervention for such children. Dweck (1975) conducted such a training study with children who had extreme reactions to failure. Two treatment procedures were compared. Cne approach followed the suggested behavior modification technique of providing success experiences. This was compared to a reattribution group. In this important study Dweck found that Ss in the success only treatment continued to evidence severe deterioration in performance after failure, while Ss in the attribution retraining group maintained or improved their performance. This study has major implications for how operant programs are conducted. (Also see Miller et al., 1975 for a discussion of how attribution manipulations ccmpare to persuasicn and reinforcement manipulations in changing children's behavior.) The Dweck study cries out for replication and extension.

The self-instructional training format could be applied to reattribution teaching (for example, see study by Hanel described in the first CBM newsletter, p. 13). Smith and Troth (1975) have used a rational approach consisting of cognitive teaching, group experiences and modeling to teach late adolescents achievement motivatich. Indeed, CBM therapists could benefit from examining the training procedures employed by McClelland and others. See Smith and Troth's article for references.

A somewhat different approach to cognitive training of children has derived from a rationale-emotive approach (see descriptica cf work by Knaus, Maultsby, Goodman in first CBM newsletter p. 5-6). Recently, Ray DiGuiseppe (New York) assessed the relative efficacy of the RET package with other groups in fourth and eighth grade classes. He reports having cbtained pcsitive results cn measures of anxiety neuroticism and irrational thinking in fourth grade classes, but none in eighth grade classes. As indicated in the first newsletter the need to obtain observational data to assess the therapeutic impact of such programs is urgent.

Walter Mischel and Harriet Mischel (Stanford Univ.) have explored the concepts of "self as a person" and "morality" from a cognitive, social learning view (Mischel, in press; Mischel and Mischel, in press). In his paper cn "self as the person" Mischel appropriately takes issue with Skinner (1971) who stated "Whatever we do, and hence however we perceive it, the fact remains that it is the environment which acts upon the perceiving person, not the perceiving persch who acts upon the environment" (p. 188). The important role of man's transforming and molding of the environment in a continuous, interacting sense is basic to the cognitive-social learning framework as expounded by Mischel, and is the basis of the CBM intervention approach. The therapist can use the technolcgy of behavior therapy, as well as ccgnitive restructuring techniques to influence how the client transforms and molds the environment.

The critical question remains how shall we best conceptualize this active cognitive process? Mischel offers a multifaceted informational analysis of the subject's cognitions. Such terms as competencies, expectancies, values, styles of categorizing, self-regulatory systems and plans are offered by Mischel (1973) to explain what goes on in the client's "head". Are these useful constructs or are they merely chapter headings for an introductory personality text? Mischel does propose that the nature of the game in explaining behavior has been to "take a few concepts and stretch them as far as possible. This is a valuable exercise for the theorist interested in defending his favorite concept" (Mischel, in press, p. 15). This is true of semantic and CBM theorists as well, whether it applies to the ABC irrational beliefs approach of Ellis or self-statements of Meichenbaum or problem-solving approach of Golfried and Spivack.

"If I had to teach a plan to someone who grew up in the jungle -- like a plan to work on a project at 10 a.m. tomorrow -- I'd tell him what to say to himself to make it easier at the start for him. Like if I do this plan on time I'll get a reward and the teacher will like me and I'll be proud. But for myself, I know all that already so I don't have to say it to myself -- besides it would take too long to say and my mind doesn't have the time for all that -- so I just remember that stuff about why I should do it real quick without saying it -- it's like a method that I know already in math; once you have the method you don't have to say every little step." This quote comes from an eleven year old boy as cited by Mischel (1975, p. 40).

Miller, Galanter and Pribram (1960) would be proud of this youth. The quote raises the possibility, recognized by Mischel, of tapping the development of children's metatheory about self-regulation. In the same way that Flavell and his colleagues (Kreutzer, et al., 1975) conducted an interview study of children's knowledge about memory, a systematic developmental interview study with children about self-regulation and the role of thinking would be most revealing. For example, it would be interesting to gain children's perceptions developmentally of the traditional self control tasks that psychologists employ (e.g., resistance to temptation, delay of gratification task, scarecrow game described below, etc.). Do children who have behavioral problems differ from matched controls on their knowledge about what one should do to exert self-control, etc.? There is a folklore for which I cannot find evidence (obviously it is true) that problem children in class usually know the teacher's rules better than do the well-behaved children. In short, what is being suggested is a task analysis approach to the study of self-control. (See Schwartz and Gottman's (1975) task analysis approach to social anxiety as a useful analogy. This is described in CBM Newsletter No. 1, page 5).

A promising way to tap the child's ongoing thoughts about self-regulation was developed by Mischel in the form of "Mr. Clown", which consists of a tape recorder and a microphone disguised as a clown who says "Hi, I have big ears and love it when children fill them with all the things they think and feel, no matter what". Mr. Clown is used to record the spontaneous verbalizations children emit in various delay of gratification tasks. Illustrative of this approach is a recent study by Patterson and Mischel (1975) comparing the effects of two kinds of self-instructional plans on the performance of nursery school children in a resistance to temptation situation. The children were

asked to perform a peg board task continuously even though they were being distracted and tempted by "Mr. Clown Box". Children who received the temptation inhibiting plan (viz., "I'm not going to look at Mr. Clown") maintained their attention on the task significantly more than did children who received a task-facilitating plan (viz., "I'm going to look at my work"). In fact, the task-facilitating group did not differ from a control (no plan) group while the combination group of both inhibiting and facilitating did not differ from an inhibiting group alone. Thus, directing the children's attention away from the source of temptation (i.e., temptation inhibiting plan) was most effective in facilitating resistance. The importance of the Patterson and Mischel study is that it suggests that the specific content of the self-instructions are important in fostering self-control, as illustrated by the fact that 83% of the Ss spontaneously repeated the self-instructional plan in the temptation situation. As Patterson and Mischel highlight it was the active suppression of attention to temptation that sustained goal oriented behavior, as reflected by more rapid returns from looking at the clown to the task and no differences in number of looks at the clown. Interestingly, the temptation inhibition plan was also the most frequently offered strategy by the control Ss. The Patterson and Mischel study nicely illustrates a possible experimental paradigm to study the use of self-instructional plans to facilitate goal directed activity. (Also see studies by Hartig and Kanfer (1973), Kanfer and Zich (1974).

Patterson and Mischel remind us of William James' observation (1892) that "the faculty of voluntarily bringing back a wandering attention over and over again is the very root of judgment, character and will" -- perhaps we can now start to determine the nature of the cognitive mechanisms that are involved in this skill. Mischel's work on self-control also underscores the potency of imagery in teaching children to develop self-control (see Mischel, 1973).

Marlene Schneider and Arthur Robin (SUNY at Stoney Brook & Univ., Maryland) have further developed their imagery procedure, which they call the "Turtle technique", to foster self-control in impulsive children (see CBM Newsletter No. 1, page 13, and Schneider, 1974). Using a story format they have children use imagery, relaxation, problem solving, and peer support to control behavior. A Turtle Manual is available for $1.00 from Schneider.

Terry Stawar (Daytona Branch, Florida) also used a story telling procedure plus operant conditioning to successfully treat a 7-year-old male who had a history of setting fires. Under the heading "Fable mod" the child was exposed to a symbolic model who manifested the desirable behavior. The story telling approach is integrated into a behavior management program.

Fred Kanfer (Univ. Illinois, Champaign) has examined the components of self-control. Spates and Kanfer (in press) examined the relative contributions of self-monitoring, criterion setting, self-evaluation, and self-reinforcement in a simple learning arithmetic task. First grade subjects who were trained on all components displayed optimal performance, whereas those trained on fewer components improved less. Most importantly, self-monitoring alone was ineffective in improving performance. It appears that self-monitoring is a necessary, but not sufficient condition for change and that

criterion setting is most critical. This experiment needs to be repeated with different tasks and with different age groups.

The importance of setting standards and the resultant effects on attributional style have been commented on by Heckhausen (1975).

Another self-control situation that has been explored by Kanfer and his colleagues, Karoly and Newman (1975), is training 5-6-year-olds to tolerate darkness. The children rehearsed one of three types of mediating responses: (1) sentences emphasizing the child's active control or competence, (2) sentences concentrating on reducing the aversive qualities of the situation, and (3) neutral sentences. The group that rehearsed competence self-statements manifested the most tolerance. The cumulative conclusion from work by Kanfer and others is that verbal controlling responses can be effectively trained. We are only now beginning to explore the full ramifications of this conclusion.

Karoly and Kanfer (1974) built what could be considered a preschool version of an adult aversive tolerance test in the form of a scarecrow game. A wooden scarecrow with outstretched hands is used in order to have the child hold his hands out in a similar fashion without moving them. Try it. Hold your arms out. How long can you last; what are you doing to cope? In the same way that we have investigated behavioral and cognitive strategies of adults, for example, on the cold pressor, one could explore the ways by which certain verbal operants came to control motor behavior. Such a research approach using a different delay-maintenance task with preschoolers, was taken by Toner and Smith (Univ. No. Carolina at Charlotte).

David Drummond (Univ. Oregon) assessed the relative effectiveness for behavioral problem children of self-instructional training vs. a discussion control group and an assessment control group. The children received two training sessions per week for three weeks followed by immediate and delayed assessment (13 weeks later). The self-instructional training took place in groups of 5 children, which simulated classroom activities. On the chalk board were printed the words "Wait! What? How? Reward!" as mnemonic devices to facilitate mastery of self-instructions. In addition, children were given notecards with these words to take with them to class and instructed to note when they had successfully applied their own kind of "self-talk". The training situations employed included high-probability problem situations such as talking out, hitting other students, leaving desk, performing nonattending behaviors. The children would offer examples of such situations and would then rehearse self-controlling responses. The discussion group, which provided a control for placebo and demand characteristics, spent their time discussing general topics such as getting along, problems in school, etc. The results indicated that on teachers' ratings the self-instructional training group performed significantly better, especially immediately after training. However there were no differences between the discussion and self-instruction group on classroom observation measures. Drummond raised some question about the adequacy of these observation measures in not focusing on behaviors that were taught in the training settings. Differential group changes were not evident on Kagan's Matching Familiar Figures test nor Coopersmith's self-esteem inventory. Drummond shares several sound recommendations concerning self-instruction that are worth noting.

1. Self-instructional training needs to occur early in the school day before students become distracted by fatigue or the impending dismissal from school. Training earlier also provides children with opportunities for trying out newly acquired skills. Indeed, Drummond found significant differences between early- vs. late-trained subjects.
2. Limiting the self-instructional training group to three, rather than five, seems more manageable.
3. One could use supplemental media, such as videotape feedback, and Ss' prerecorded self-statements (a la Kanfer & Zich, 1974) in order to provide contrasting models.
4. Finally, Drummond suggests that younger children than grades three and four be run.

As we continue to experiment on self-instructional training it is important to keep in mind the need to establish a correspondence between what the subject says and what he does. For example, Giebink, et al. (1968) reported that institutionalized emotionally disturbed 10-12 year olds learned to verbalize the correct words (i.e. verbal solutions in frustrating problem situations) but this often failed to guide their behaviors. The need is for a cognitive-hyphen-behavioral approach whereby reinforcements are made contingent upon the appropriate correspondence between saying and doing. Focusing on only one side of the equation is likely to prove ineffective. How ineffective may depend upon the nature of the population and the targeted problem.

An example of how behavior modification procedures can be supplemented by mediational processes is offered by MacPherson, et al. (1974). They compared three different methods of controlling disruptive lunchroom behavior of elementary school children: operant alone, operant plus punishment essays, and operant plus mediation essays. The latter group was most effective in reducing disruptive behavior. In the mediation condition the children wrote essays about "what they did wrong, what things happen when they do something wrong? what should they do? what pleasant things happen when they behave appropriately?" These results are consistent with those of Blackwood (1970, 1972). Are we merely rediscovering the potency of reasoning?

Too frequently negative results fail to provide useful information concerning the value of a treatment regimen. The usual pattern is initial positive results; then some negative results seem to begin to appear; enthusiasm and interest in the procedure wanes and we are "off" onto a new training technique. Hopefully, the data on CBM procedures will not follow that pattern, especially if we try to understand what language training in the form of self-instructional training can and cannot accomplish. For example, Piagetian oriented investigators have indicated that having children talk to themselves in certain ways will help the child direct his attention, control perceptual activities but it will not result in the development of a new cognitive operations or structures as illustrated in conservation experiments (see Sinclair-de-Zwart, 1967 and Inhelder et al., 1974, especially chapter 4). It is invaluable to find areas of behavior that are not modifiable by means of language training. Exactly what is the value of such negative results -- we'll consider this question in light of the historical issues of the relationship between language and thought as documented by Sokolov (1972, chapter 2).

Moreover, we can learn what types of training are effective or how the nature of the task interacts with the training procedure. In order to appreciate this point consider what is involved in teaching impulsive children self-control versus teaching school children writing skills. Let's see how self-instructional language training are employed in each case. In the Meichenbaum and Goodman (1972) study with impulsive children self-instructional training was found to lead to large rapid effects. In this case the children were required to put together into a new response chain elements of responses that were already in their repertoire.

In contrast Robin et al., 1975 (see CBM Newsletter 1, p. 17 for description) found that self-instructional training did not substantially enhance writing skills. However, in learning to write letters a number of finer elemental skills are required and it is suggested that each of these component skills must be taught before self-instructional training will facilitate performance. Robin reports (personal communication) that although self-instructions were used to teach children to self-produce cues for correct decisions at critical choice points in printing a letter, if the child had a deficit in spatial representational skills then directional self-cues in the verbal modality for written task might not be effective. Instead, having the child self-instruct a "join-the-dots rule" and image the letter may be most effective. The point to be underscored is that when we find occasions when self-instructional training does not work this should be the occasion to rethink the task analysis and/or consider whether it is appropriate to this domain of behavior. We have to learn when and how the adjunctive use of self-instructional training will enhance performance.

These points are nicely illustrated in the work of Robert Wozniak and Bryan Egeland (Univ. Minn.) who have developed a "Learning to look and listen program: A visual information processing training program" (1975) for preschoolers. In an impressive detailed teachers' manual they provide eleven lesson plans to teach the child how to search an array, how to attend to part-whole relations, etc. Once these perceptually based elemental skills are developed then self-instructional training may be used to combine elemental skills so that they can be combined into more sophisticated cognitive strategies that guide behavior.

An example of where self-instructional training is provided without insuring that each of the elemental skills has been achieved is found in the doctoral dissertation by Barbara Burns (1972). She explored the usefulness of general attentional self-directed commands on arithmetic performance. She found that such self-instructional training was ineffective, and she comments, "change in attending behavior would not be manifested in the arithmetic score if the child were lacking sufficient skills" (p. 62). Teaching children to respond to such self-directed verbal commands as "stop and think" will not result in incremental improvement of performance on specific tasks unless the elemental skills are already in the repertoire. Moreover, the self-instructions used by Burns focused primarily on the inhibitory aspects of attending, with limited emphasis on the planning and response control aspects of attention. Each of the different aspects of the complex attentional process should be incorporated into the training regimen. Thus, in evaluating self-instructional training programs one must be particularly sensitive to the specific self-

statements that were trained. One must ask whether the particular self-statements were likely to elicit the elemental skills required to do the tasks.

Joel Smith (Bristol, Pa.), in a doctoral dissertation at the University of Toledo, examined the effects of self-instructional training on normal first grade children's attending behavior. A six-session self-instructional training group was compared with a practice control and an assessment control group. The self-instructions that were used focused on components of the attending behavior, namely, they encouraged relaxed, attentive posture, eye contact, and verbal following. Smith comments on the difficulty of having children verbalize while passively listening to someone read a story, as compared to focusing on active, instrumental behaviors (e.g., Palkes et al., 1968, 1972). For example, some children were observed using verbalizations such as "I have to look at the teacher's eyes", yet they would be staring elsewhere. The need to make reinforcements contingent upon the correspondence between verbal and motoric operants is apparent. The results in Smith's study were attenuated by such factors as problems with training, the use of normal subjects as compared to impulsive hyperactive children, the accompanying ceiling effects, and the reported boredom in the task. The importance of the Smith study is that it highlights the necessity of focusing on the components of attentional behavior. The study bears careful replication with a clinical population.

Donald Robertson and Stewart Keeley (Bowling Green) (1974) used a multiple case study design to assess the efficacy of a modeling procedure to train mediational problem solving skills in first- and second-grade children. Training was provided in the classroom, thus teaching mediational skills in the presence of extraneous stimulation from the classroom and peers. The training, which included 15 sessions over a three week period, employed classroom activities such as arithmetic, copying skills, etc. The individual training was conducted in a corner of the classroom when the teacher was giving individual instruction or working with small groups. As in other studies, the children were provided with self-instructional cue cards which were designed to establish an attentional set, elicit relevant mediators, and foster self-reinforcement. The self-instructional training was supplemented by social and token reinforcement; the tokens were faded in the final sessions. The internalization of the self-instructions was evident in the Ss' increased ability to control motor behavior by coordinating verbalizations and motoric responses and by the extension of the skills to novel tasks such as scrambling sentences. Improvement was evident by a reduction of errors on both the Matching Familiar Figures Test (MFF) and the Porteus maze, as well as by improvement on WRAT spelling and reading subtests. The improved performance on the MFF and Porteus maze was more than 50% greater than that obtained in the Meichenbaum and Goodman (1972) study. Interestingly, the reduced error scores on the MFF occurred without accompanying changes in the latency score, reflecting alterations in problem solving style. The importance of this finding is indicated by the finding of Goodman (1974) that self-instructional training actually changes the way in which impulsive children use their eyes to search the alternatives in the MFF task. One additional outcome from the Keeley-Stewart study is worth comment. They did not find that the children who received self-instructional training improved in

classroom behavior and they justifiably argue that such mediational training needs to be supplemented by operant procedures in the classroom. This suggestion is consistent with a CBM approach. One wonders if the more extensive thinking aloud program of Camp will contribute to classroom changes.

A somewhat different strategy was used to assess the developmental role of subvocal speech on performance by Linda Garrity (1975). She examined the relationship between electromyographical manifestations of subvocal speech and recall in preschool children. She found that the amount of subvocalization was related to recall and that younger, less bright subjects subvocalized less than older, brighter subjects during a prerecall delay period. This study provides further evidence that subjects as young as 4 spontaneously subvocalize and this subvocalization is positively associated with recall. (See her article for references to other studies on EMG recordings with children.)

The usefulness of cognitive strategies in children's recall has been studied by Keeney et al. (1967) and Hagen et al. (1973). In both cases induced verbal rehearsal resulted only in short-term improvement. More recently, Joan Asarnow (1976) has demonstrated that when rehearsal was in the form of self-instructional training the improvements were maintained.

Two different child clinical problems that have been treated by CBM procedures include social isolation and phobic-like avoidance behaviors.

Zena Jakibchuk and Vincent Smeriglio (Univ. W. Ontario) have used a cognitive-modeling procedure with preschoolers who have low levels of social responsiveness. They compared two modeling films which were equated for visual and auditory information and differed only in whether the soundtrack was in self speech form (first person-form) or in narrative (third person form). The films showed an isolated child playing alone, then approaching peers, and finally interacting with them in a variety of situations. The accompanying soundtrack (either in first or third person) described feelings of isolation, coping responses and finally self-reinforcing self-statements for having interacted. Relative to a control film group and an assessment control group the self-speech group demonstrated significant improvement on in situ behavioral measures. This change was maintained at a 3-week followup. Interestingly, Jakibchuck and Smeriglio reported that increases in frequency of social interactions following treatment in the self-speech group were accompanied by an increase in the frequency of verbalizations. The importance of self-speech in maintaining improvement at the followup is indicated by the fact that Keller and Carlson (1974) did not find maintenance of improved social behavior "at a three week followup period when using only narrative modeling". However, Keller's results are in conflict with findings by O'Connor (1969, 1972). The importance of the social isolate's negative self-statements is being studied by Joop Meijers (see CBM newsletter, No. 1, p. 5).

Kornhaber and Schroeder (1974) examined the similarity dimension between model and subject in a study of children's avoidance behavior. They found that age similarity was more important than model similarity of the response dimension (level of fear). Meichenbaum

(1971) found response similarity important with adults. Besides differences in age in the two studies there were also differences in that the adult models in the Meichenbaum study were exposed to the use of self-control coping techniques. We may find that a mastery model is more effective in treating children, whereas a coping model (one that shows fearful behavior, coping responses, and then mastery) more effective with adults. More research is needed on these issues.

As we conclude the summary of the self-instructional training studies with children it is appropriate to offer a brief comment on the use of language. Some argue that language is essentially a weak instrument in the modification of behavior while others treat language and thought as equivalent. It is necessary to remind ourselves of Furth's (1966) observation, following Piaget, that thinking can occur without language but that language can greatly enhance thinking and in turn affect behavior. That is the promise of the self-instructional CBM treatment approach.

CBM WITH ADULTS

The treatment research of CBM procedures with adults can be seen as falling into three general classes. The first cluster of studies attempts to apply the self-instructional training procedures of cognitive modeling, and overt and covert rehearsal, which were developed with children, to adult problems (e.g., schizophrenic thought disorder, creative problem solving, interpersonal anxiety, etc.). The second cluster of studies has combined behavior therapy intervention procedures (e.g., modeling, reinforcement programs, role playing) with cognitive restructuring techniques. Illustrative of this approach is the work by Aaron Beck and his colleagues on the treatment of depression, described below. The third class of CBM treatment studies assesses the efficacy of a skills-oriented, stress inoculation training program for a number of clinical problems such as anger control and tolerance for pain. The stress inoculation package will be described below, but for now it is important to indicate that the procedure involve teaching the client a host of cognitive and behavioral techniques in order to cope more adequately. Before describing each of these programs of study I would like to highlight what I consider the major deficiency or oversight in the area. The deficiency is that we do not study "normals" or nonclinical populations in order to discern the nature of their coping skills. For example, we find that we can nicely describe depressed patients' thinking styles. Perhaps it is not the presence per se of such thought disorders that is the critical variable, but instead, what I have come to call the "recovery time" that is more important. It is suggested that the critical aspect may be the coping mechanisms employed when an individual notices he/she is depressed. A similar analysis can apply to the work by Novaco on anger (described below). For example, we have to not only be upset by the high incidence of child abuse, but sometimes wonder why the incidence is not higher. (I speak as a father of four.) What are "normal" parents doing and saying to themselves to handle anger? In short, we need to study non-clinical populations. I tried to put forth a similar argument in the first CBM newsletter (page 6) when I questioned whether it may be not the irrational beliefs per se that are important in explaining

maladaptive behavior, as Ellis suggests, but rather what we say to ourselves about emitting such irrational beliefs. There is an urgent research need to study non-clinical populations. Garmezy's recent call to high-risk investigators to study so-called "invulnerable" children is in the same spirit. We will see some beginning attempt in this direction in the descriptions below of the role of cognitive factors in the task analysis performance of athletes and scientists. Finally, we need to apply CBM procedures to clinical populations as compared to college populations. A beginning in this direction has been the application of CBM to schizophrenics.

Self-instructional training with adults

A major therapeutic innovation with schizophrenics is to provide them with social skills training (e.g., see Goldsmith & McFall, 1975; Hersen & Bellack, in press). The focus of such training is usually on overt stylistic aspects of interpersonal behavior, such as changes in eye contact, response latency, intonation, pausing, physical gestures, smiling, etc. The usefulness of such training with schizophrenics has been illustrated in a study by Bellack et al. (1976), who found generalization of the specific overt behaviors on a role playing assessment. However this improvement did not extend to those behaviors that involve mastery of verbal content in the form of requests for new behaviors in which the schizophrenic was required to generate novel content or verbalizations. It is suggested that the social skills training package could be improved if it were supplemented by the inclusion of CBM procedures. Two cognitive approaches that could be employed are (1) the self-instructional training of Meichenbaum and Cameron (1973) in which schizophrenics are taught to talk to themselves in instrumental coping ways when they notice themselves emitting maladaptive behaviors, or experiencing pathognomic thoughts and/or intense affective experiences; (2) a problem solving approach (see work by Jerome Siegal (as described on p. 12 CBM newsletter 1 and Siegel and Spivack, 1976).

An encouraging replication of the self-instructional treatment approach was offered in an interesting case study by Meyers et al. (1975). They successfully treated a 47-year-old hospitalized chronic schizophrenic by means of self-instructional training to control pathognomic verbalizations. Fifteen sessions of training contributed to discharge from the hospital and continued improvement, which was evident at a six month follow-up.

However a recent attempt to replicate the self-instructional training with schizophrenics failed, as reported by Ronald Margolis and Kenneth Shemberg (1975) (Bowling Green). There are a number of reasons the results may not have been replicated. These included different subject populations, different number of training sessions and specific ways in which training was conducted. Whatever the reasons, there remains a need for further replications of this application of training. Interestingly, Margolis and Shemberg comment on the variable responsiveness of patients to the treatment approach, suggesting some important individual differences. The key question is whether behavioral social skills training with schizophrenics will be enhanced if supplemented by CBM procedures. Presently the

"robustness" of the CBM procedures with schizophrenics has yet to be fully assessed.

As mentioned above, a second CBM intervention procedure with schizophrenics is to employ a problem solving approach. Explicitly teaching clients how to assess situational demands, generate behavioral alternatives, test various hypotheses, employ feedback, etc., has been central to the treatment approach of a number of CBM therapists. For example, see the papers by Goldfried and Goldfried (1975) for a general review of problem solving treatment approaches. Other recent related articles include Coche and Flick (1975a,b) and Argyle et al. (1974), who successfully taught interpersonal problem-solving skills to hospitalized psychiatric patients; Pion and Annon (1975), who took a problem solving approach in the treatment of sexual problems; Meichenbaum (1975), who used a self-instructional problem-solving approach to foster creative responsiveness in college students. Also see the work of Peter Fiedler (1975) who uses cognitive modeling to enhance creativity.

Vincent et al. (1975) have applied a problem solving analysis to an examination of distressed couples. An interesting component of their analysis is a comparison between problem solving skills with spouse vs. stranger, thus reflecting the "trait vs. state" like qualities of the performance deficits. Arnkoff and Stewart (1975) have used modeling and videotape feedback separately and in combination to enhance personal problem solving. The cognitive modeling employed was of a coping variety. The results indicated that modeling was effective in increasing the breadth of the client's repertoire (e.g., in seeking information). Videotaped feedback was necessary for the execution of the behavioral acts. The authors discuss some of the problems involved in using videotape feedback and how problem solving training needs to include solution generation and judgment training.

A very promising problem-solving training approach which has been applied to both adults and children has been offered by Christensen. Cliff Christensen and his students (Ontario Institute for Studies in Education, Toronto), over several years, developed and assessed a broadly based interpersonal coping skills counselling approach. The emphasis in the model is on identifying interfering social stimuli, defined as those behaviors exhibited by others to which the individual responds in a rigid, nonadaptive manner, usually by avoiding, freezing, or attempting to change the stimulus. Identification of the interfering social stimuli is accomplished through examination of the individual's current interactions, and of his/her socialization experiences. Three basic techniques used to alter the individual's responses to the identified troublesome stimuli are: (1) desensitization, which in this approach involves simple, imagined or in vivo exposure to the troublesome stimulus, (2) cognitive re-appraisal, which is based on training in discrimination among observation, inference and evaluation. The individual learns to re-appraise the evaluation that he/she places on the stimuli; (3) behavioral experimentation -- the individual learns to generate and experiment with a range of alternative behaviors in response to identified interfering social stimuli. The approach is a broad social competence training model, unrestricted in target population. Its effectiveness has been assessed in individual and group application

with high school students, with children and with a psychiatric population.

For example, Sanchez-Craig (Addiction Research Foundation, Toronto) (1976) successfully used the interpersonal coping skills procedure with junior high school students who expressed a desire to improve relationships with significant others. The results indicated the importance of teaching behavioral coping strategies. Other investigators, in dealing with entirely different clinical problems -- Meichenbaum (1972) on public speaking behavior, Kazdin (1974) on social anxiety and Sarason (1973) on test anxiety -- have also implicated the importance of teaching coping skills. Sanchez-Craig (1974, 1975) is now trying the treatment approach with alcoholics. (See her recent papers on teaching alcoholics to think defensively and to develop interpersonal cognitive coping skills.)

Working within Christensen's model, Byrne (1973) demonstrated that instructing high school students in the identification, appraisal and reappraisal of aversive stimuli and encouraging the production of behavioral variation reduced discomfort in social interactions and resulted in improvement in moral and ego reasoning as assessed on Kohlberg and Loevinger's scales. In order to discern the locus of the coping skills training program, Potvin (1974) studied the impact of the problem-solving training package on the interpersonal relationships of 180 community college students. Interestingly, the skills package had little effect upon the interactions with positively appraised others, but rather the effects were most marked and consistent with negatively appraised others. The need to examine the differential impact of such CBM treatment approaches on the host of social interactions is underscored by this finding. Other studies which further illustrate the clinical potential of the CBM approach in the treatment of interpersonal anxiety include Usher (1974), Christensen (1974) and Nicholl (1975). Thus, the initial results from Christensen's lab are most encouraging in suggesting that a CBM interpersonal coping skills program is effective in fostering social competence. However, these results must be tempered by the fact that most of the studies depend heavily on self-report measures. The need for replication with behavioral indices is obvious. Christensen (1974) has written a detailed manual of the treatment package.

Since many of the studies cited are unpublished doctoral dissertations in Canadian Universities and are not summarized in dissertation abstracts the following address may be of use to those who wish to obtain copies of Canadian theses. Send name of thesis, author, year, institution, to Canadian Thesis on Microfilm, Catalogue Division, Room 44, National Library of Canada, Ottawa, Canada K1A ON4.

Tom Stevens (Long Beach, Calif.) has also adopted a problem-solving approach in helping students consider career and personal goals (see his description of objectives).

Since some mention has been made of the importance of teaching coping skills, a recent paper by Bruch may be of interest. Monroe Bruch (Bradely Univ.) examined the literature on the relative efficacy of a coping modeling procedure vs. a mastery modeling procedure in the treatment of phobic behavior, nonassertive behavior, test and interview anxiety. Despite the apparent support for the use of coping modeling procedures with adults he highlights a number of unresolved

issues centering on the nature of mediative mechanisms, subject population, problems of generalization, etc. The issue of the relative efficacy of a coping vs. mastery approach in such behavior therapy techniques as modeling, desensitization, role playing requires systematic investigation. A host of variables are likely to influence the outcome, including the age of subject, the nature of the target behavior and how the coping processes are modeled. Recall the Korhaber and Schroeder study cited above with children. However, Bruch (1975) has examined the variables of mastery vs. coping modeling with and without accompanying positive affect in the treatment of interview anxiety in psychiatric inpatients. A coping model was more effective than mastery and modeled positive effect also contributed to the improvement. Interestingly, although the mastery model was viewed most attractive it did not correlate with behavior change. Melamed and Siegel (1975) used a coping modeling film to reduce children's anxiety in facing hospitalization and surgery.

CBM approaches in the treatment of anxiety

In the last newsletter I referred to a number of studies that implicated the role of cognitive factors as contributors to anxiety. For example, see the work of Wine (1971) and Sarason (1975) on test anxiety, Schwartz and Gottman (1974) on interpersonal anxiety. The evidence clearly indicates the important role of the client's appraisals, expectation, attributions, self-statements and images in the form of task-irrelevant thoughts in contributing to anxiety. CBM treatment approaches that are designed to alter these cognitive events have been most successful. I would even go so far as to say that in the treatment of evaluation anxiety, and test anxiety in particular, we are on the brink of developing a highly successful treatment approach. What is all the excitement about?

Kent Houston (Univ. Kansas) has conducted an interesting pair of studies to assess the consistency of cognitive strategies across situations, namely, in a lab test involving avoidance of shock and in an evaluation examination situation. Viewing the cognitive strategies in terms of traditional defense mechanisms he found that intellectualization and rationalization were associated with the most effective coping in both situations while subjects who worried about themselves and the situation evidenced the most distress across studies. Subjects high in dispositional anxiety were found to lack effective strategies for coping with stress and instead ruminated about their plight. This pattern of results is becoming one of the more reliable findings in the area of stress and thus speaks to the importance and promise of CBM intervention. It also underscores Sarason's (1976) argument about the role of preoccupation in anxiety.

Mike Weissberg (Northern Illinois Univ.) has developed a detailed CBM therapy manual for test anxiety and initial results are quite positive.

Lorne Wagaman (Morgantown, W. Va.) and his colleagues have in a multiple baseline study provided further evidence for the cognitive modification treatment of test anxiety (1975). Moreover, they found that improvement occurred regardless of expectancy set given to subjects. Interestingly, the cognitive modification was conducted by

means of self-instructional videotaped models. The use of such videotaped modeling procedures is most promising and opens the possibility of developing therapeutic tapes. See Ted Rosenthal (in press) for a comprehensive review of how modeling therapies have been employed to modify both covert and overt behaviors.

John Conway, Robert Zemore and Oswald Seunath (Univ. Saskatchewan) have been exploring the possibility of developing a video tape series designed to assist individuals in coping with anxiety. I've previewed the initial films in the series and although they have a long way to go the idea is there to be developed. An educational package that I have not seen is by Rian McMullin and Bill Casey (Denver, Colo.) who have marketed a $50 self-help CBM therapy package (see Franks, 1975 for a review). In this regard Meichenbaum has made two audiotapes for professional audiences on CBM procedures (see biblio for references).

Ken Holroyd (Ohio Univ.) in a doctoral dissertation conducted at Univ. of Miami assessed the relative therapeutic efficacy of group cognitive therapy vs. desensitization vs. the combination of the two in the treatment of test anxiety. The results clearly indicated that cognitive therapy was more effective in reducing anxiety in the analogue test situation and improving grade point average than other treatment and control procedures. A copy of the Therapist Manual is available. The cognitive training approach derived from Wine's (1971) cognitive attentional model of test anxiety, Ellis's (1958) rational-emotive approach and was consistent with the approach taken by Meichenbaum (1972) in treating test anxiety. The cognitive therapist encouraged clients to identify the content of disruptive thoughts, the environmental context within which these thoughts occurred, and negative behavioral consequences of these thoughts. As clients developed the ability to identify cognitive and attentional components of test anxiety the therapists challenged anxiety engendering thoughts and provided techniques for coping with them by means of alternate self-instructions. As Meichenbaum et al. (1971) found, the combined group of cognitive therapy and desensitization was much less effective. Both Meichenbaum and Holroyd comment on the inadequate therapy time available (i.e., eight and seven one hour sessions respectively) for the combined treatment. Perhaps a more extended period of therapy time would permit the combination treatment to demonstrate its overall efficacy.

One additional observation concerning Holyrod's study is worthy of comment. He included a test for the demand characteristics of the respective treatment in the form of a frustration test and found that all treatment groups, including the placebo group, responded comparably and regarded the treatments as comparably believable and of equal potential value. The inclusion of such validity measures seems to be an important and interesting design addition. In this regard see a recent study by Osarchuck and Goldfried (1975) in which they assess the credibility of different therapy rationales. They highlight the importance of pretesting the credibility and expectency of the therapy rationales of both the CBM treatment and placebo control group on a particular population for which the outcome research is directed. This emphasis is consistent with the suggestions offered by (1) Frank (1974) and Meichenbaum (in press) on the importance of the initial conceptualization phase of therapy or what goes on in therapy prior to a particular intervention and (2)

Lick and Bootzin (1975) on expectancy effects in the treatment of fear.

Jeri Dawn Wine (OISE, Toronto) has developed a fine counsellors manual for altering attentional strategies in evaluation anxiety management. The training is conducted in small groups of 4 to 6 students. The initial results of the treatment approach are most encouraging. Let me underscore a point that Wine makes in her manual about the importance of combining the attentional training semantic therapy with a study skills training approach (e.g. see Allen, 1972). I can also see the treatment approach taken by Frank Richardson of using semi-automated self-study guides as a useful adjunct (see CBM number 1, p. 11 for description). Meichenbaum also has available a cognitive-behavioral therapist manual for evaluation anxiety (cost, two dollars).

Jeri Wine and her students are extending work on cognitive-attentional modification of test anxiety to another form of evaluation anxiety -- social anxiety. Marti Smye, a graduate student working with Jeri, has devised a role-playing assessment device consisting of videotaped social situations to which high school students are role-playing responses. The students are extreme scorers on Watson and Friend's Social Avoidance and Distress and Fear of Negative Evaluation scales. Each student's role-playing is being videotaped and replayed as a kind of individualized TAT measure (see Meichenbaum, in press b) and the students are asked to report on their thoughts and images while they are role-playing. They are also asked to report on alternative responses they might have made to the videotaped social situations. It's anticipated that the high and low socially anxious students will report essentially the same behavioral repertoires, but that the responses will be arranged in different hierarchies. In general, low socially anxious students are expected to have a high probability of task or situationally relevant responses, while high socially anxious students are expected to have negative self-evaluative, conflictful responses high in their hierarchies. These differences are expected to be reflected in differences in reported cognitions during the role-playing. The role-playing assessment device will be used to help assess a counselling program for socially anxious high school students being launched next year. In the program, worry management, based on a cognitive-attentional approach a la Wine's earlier test anxiety research, emotionality management, and behavioral skills training will be systematically manipulated in a factorial design.

Although the CBM treatment results with test anxiety, and as we will see with interpersonal anxiety, are quite encouraging, there have been some studies that have attempted cognitive interventions without marked success. As in the case with self-instructional training with children, it is necessary to be precise in noting what works and what does not work. Many different procedures fall under the rubric CBM and we must be careful not to impose a "uniformity" myth on these procedures. If we remain open-minded and non-defensive then perhaps we can learn from our failures as well as successes. For example, Jesus Casas (UCLA) conducted a doctorial dissertation which compared a rational restructuring method of CBM with a self-control desensitization procedure with speech anxious clients (1975). The rational restructuring technique of Goldfried et al. (1974) was employed and found to lead to minimal changes. However, an

interesting post hoc subject by treatment interaction appeared with clients who were high in fear of negative evaluation responding most favorably to the rational restructuring procedure. This subject by treatment interaction is worthy of further examination since Meichenbaum et al. (1971) also found an interaction between level of anxiety and a cognitive restructuring treatment approach. Interestingly, in a personal communication, Doug McNair has indicated that he reanalyzed Gordon Paul's data from his classic (1966) study of insight vs. desensitization and indicated that a treatment by subject interaction was evident in Paul's data. There is a need for a careful set of studies which examine these complex interactions.

Randi Finger (Univ. No. Carolina) compared a covert positive reinforcement technique with relaxation in treating test anxious clients (1975). She found no differences between treatment groups and control groups. A CBM approach that focuses only on reinforcing aspects of cognition is likely to prove ineffective. See Mahoney (1974) for an evaluation of the "(in)effectiveness" of such covert procedures (a la Cautela, Homme). Howard Pachlin (SUNY, Stoney Brook) has even questioned what it means to reinforce or punish thoughts. He concludes that we should not treat thoughts as "covert behaviors" subject to explicit contingencies as are overt behaviors. This conclusion is consistent with other data (see Mahoney, 1974; Meichenbaum, 1974).

As in the treatment of test anxiety, interpersonal anxiety (i.e., speech anxiety, low assertiveness, dating anxiety, etc.) has been successfully attacked by means of CBM procedures.

Carol Glass, John Gottman and Steve Shmurak (in press) assessed the relative efficacy of a response acquisition program vs. a cognitive self-statement program vs. combination vs. a waiting list control group with socially anxious male college students. The results indicated that subjects trained in cognitive self-statement coping showed significantly better performance in a role-playing situation on which they were not trained, made more social phone calls and made a better impression on women than subjects in the other groups. These effects were maintained at a six month followup. They concluded, the "results suggest that many college students with dating problems may know what to do and only need to get themselves to do it" (p. 11). The need to replicate this study with more severely disturbed socially anxious clients is apparent. Their training format can also be supplemented by individually tailoring role playing scenes to each client's own experiences.

Further support for the role of negative self-evaluations contributing to social exhibitions is offered by Glasgow and Arkowitz (1975). They found that especially among males, a social skills deficit contributes less than do critical self-evaluations to a performance deficit. The main difference between high dating and low dating men "appears to be the degree to which they initiate and approach heterosexual social situations rather than any social skill differences once they are actually engaged in heterosexual interaction". Interestingly, among low dating females a social skill deficit seemed to play a larger role.

William Fremouw and Morton Harmatz (Univ. W. Va.) have published a provocative study (1975). They trained speech anxious clients to

act as CBM therapists for other anxious Ss (1975). This study raises a number of exciting treatment possibilities. (See CBM newsletter 1 p. 4 for description.)

Cognitions supplementing behavior therapy procedures

Another influence of the CBM treatment approach is to alter "traditional" behavior therapy procedures in ways to consider the client's cognitions. A number of behavior therapy procedures such as desensitization, modeling, role playing, conditioning procedures have been altered to take into consideration the client's cognitions (Meichenbaum and Cameron, 1974). For example, in the treatment of test anxiety Spiegler et al. (1976) successfully altered the desensitization treatment paradigm to a self-control framework consistent with the suggestions of Goldfried (1971) and Meichenbaum (1972).

Terry Pechacek (Palo Alto, Calif.) has treated smokers by means of relaxation, imaged rehearsal and modification of self-talk and found an interaction between this CBM procedure and client's initial level of anxiety. Pechacek has also developed a self-instructional methods manual for coping with stress without cigarettes. In a step by step approach the manual takes the client through self-analysis, and ways of coping with tension. This procedure could be supplemented by such techniques as cognitive coping modeling videotapes of clients dealing with urges to smoke once they have stopped or what they say to themselves if they begin to start smoking again. By use of modeling and role playing the therapist can anticipate and then subsume the nature of the client's internal dialogue into the treatment package. The focus of treatment would now shift from cessation to maintenance. What do you want your client to say to himself in order to control smoking, eating, etc.?

A number of investigators are studying the role of cognitive factors in eating behavior. For example, Susan Wooley (Univ. Cincinnati Medical Center) (1972, 1975) and her colleagues have found that individuals are often more influenced by their beliefs about food intake than by actual calories consumed. Hunger ratings and actual food consumption seem to be more reliably predicted by subjects' perceptions of the calorie content of their food or diet rather than their actual values. Albert Stunkard (Univ. Penn.) is looking at the role of cognitive factors in the effective treatment of obesity. Michael and Kathryn Mahoney (Penn. State Univ.) have reported that such factors as standard setting and private monologues appear to be critically important elements in many cases of obesity. Their client treatment manual (Permanent Weight Control) emphasizes these components (1975, 1976).

Gary Gilbert (Columbia, Missouri) has applied CBM procedures in a most interesting way to the treatment of alcoholics under the rubric "urges and surges program". In order to teach the patients to improve in their self-monitoring behavior they are asked to fill out a chart each half-hour on which they indicate the presence or absence of an urge to drink and the accompanying spatial and temporal data concerning presence of others and also mood state as selected from a list of some 25 possible mood states which are associated with a

particular urge. This self-observation is the occasion for cognitive and behavioral interventions. Much work is required to determine how best to have clients monitor thoughts, images, feelings, urges, etc.

An important cavaet concerning this research should be offered. When we ask our clients to do this self-observation we are changing the psychological field, namely, we are increasing the likelihood that client will generate particular moods, urges, thoughts in order to count them. This is useful from a therapy or change viewpoint, for now the client comes to entertain the notion that having such mood states, urges, etc. is a contributor to his problem. In short, a translation process begins -- a translation from the language system that the patient brought into therapy to the language system that is now evolving between therapist and patient. The adoption of this new language system will lead to change. The cavaet is that we can not know from this line of investigation whether such urges, thoughts, etc. actually contributed to the problem in the first place. We are in the throws of a dilemma -- a kind of Heisenberg principle of behavior.

Of central importance to a CBM approach are mental imagery based techniques. A recent article which describes the variety of different ways imagery has been used is offered by Sheikh and Panagiotou (1975). Although the article is weak in describing some behavioral techniques for using imagery it does provide useful references. Wilkins (1974) provides an interesting conceptual analysis of imagery techniques.

Terry Wade, Tom Mallery and Stewart Proctor (Univ. Utah) have been investigating the role of imagery in fear and avoidance behavior. Their initial results suggest that imagery may play an important role in these patterns and may be an important focus for the assessment and treatment of avoidance behavior. In an interesting set of studies Peter Lang (Univ. Wisconsin) is examining the differential impact on autonomic reactions of having high fearful subjects image the phobic stimulus per se vs. their reactions to it.

Integration of behavior therapy and cognitive restructuring techniques

Perhaps the best example of the integration of behavior therapy and cognitive restructuring techniques is offered by the work of Aaron Beck and his colleagues (Phila., Pa.). In a programmatic fashion Beck has identified the nature of cognitive deficits in depressed patients and has developed a cognitive-behavior modification treatment approach (see the treatment manual for individual cognitive-behavioral psychotherapy of depression by Aaron Beck, John Rush and Maria Kovacs). The main thrust of the CBM treatment is to encourage the patient to engage in a variety of activities and to help him to evaluate his attributes and his performance more realistically by focusing on his negative self-judgments. The use of graded tasks, lists and assignments are used to clarify the clients' cognitions. The initial results using this therapy approach has been encouraging but, as yet, not definitive. In a review of the literature Beck found eight studies which compared cognitive therapy, behavior therapy and the combination of the two in the treatment of depression. "The major conclusion which can be drawn from these studies is that treatment procedures which directly change cognitions and/or behaviors are effective in alleviating depression. Furthermore, they are more

efficacious than nondirective and supportive modalities (Beck, 1975, p. 95)." The studies cited include Shipley and Fazio (1973), Taylor (1974), Shaw (1975), Schmickley (1975), Hodgson and Urban (1975), Fuchs and Rehm (1975), Rehm et al. (1975), Gioe (1975), Klein and Seligman (1976), and Beck and Shaw (1975). (Also see Thorp et al., 1974.) The major limitations with these studies is that they are predominantly unpublished manuscripts and dissertations with a college student population. A few studies have suggested the possible application to psychiatric populations (e.g., Rush et al., 1975a; 1975b), but this is the exception.

Rush et al. (1975) compared twice weekly CBM and imprimamine for a period of 10 weeks in unipolar depressed patients. The results indicated an equivalent efficacy in the relief of symptoms, which was maintained at a three month followup. In addition, a lower drop out rate was noted in the CBM group compared to the chemotherapy group. The need to extend this research to a large psychiatric population with extensive followup is urgent. Beck is now comparing CBM procedure with drug treatment. Some of the other more pressing researchable issues seem to involve: (1) a careful examination of thought disorders in normal nonclinical populations (i.e., what is the nature of the coping mechanisms normals use to handle depression) (see Weintraub et al. 1974; Miller (1975) who asked the question what deficits are unique to depressives). (2) one can take the CBM package apart to discern the most important active components; (3) one can try to combine CBM and drug treatment (e.g., consider making available to general practitioners Beck and Greenberg's (1974) bibliotherapy of CBM). In this way we can compare drug alone vs. drug plus bibliotherapy; (4) As mentioned before in discussing drug treatment with hyperactive children, medication not only has pharmacological effects, but perhaps also alters the client's internal dialogue. The same processes may operate in the pharmacotherapy of depressives. It would be fascinating to take Whalen and Henker's interview schedule which they used to study changes in attribution with hyperactive children who were receiving medication and apply it to depressives who receive medication.

John Rush and John Watkins (Univ. of Oklahoma) are codirecting a depression treatment program and comparing the CBM treatment approach vs. medication vs. the combination with lower class individuals, whereas the Beck group uses middle and upper class populations. They are also involved in the needed development of new cognitive assessment devices. Watkins has also been treating acting out impulse control problems with rational-emotive group psychotherapy (Watkins, in press).

Barry Brown (Houston, Texas), using an RET conceptualization has suggested four types of depression including depressions of over-responsibility, indecision, self-criticism and understimulation. He combines an RET, CBM, and broad-spectrum behavior therapy approach to treat these. He illustrates the different styles in the form of case studies (1975). Much research is needed to assess the validity of these distinctions.

Victor Raimy (1975a) has taken the common occurrence in psychotherapy of therapist and patient repeatedly discussing certain issues or problems and has highlighted it as a key ingredient in the concept of "repeated review". Raimy (1975b) has argued that cognitive

reorganization and behavioral change results from the changing of misconceptions about the self and the self in relation to others. Consistent with this notion Raimy used the technique of repeated review whereby the client reviews orally, again and again, his subjective reactions to an imagined scene in which his misconception is active. The client may be asked to close his eyes and image a problematic scene while describing aloud thoughts and feelings. This is done repeatedly until (verbal) behavior change is noted. The technique is viewed as adjunctive to other therapies. A comment is in order concerning Raimy's (1975b) recent book "Misunderstanding of the Self". It is an ambitious attempt to integrate the entire spectrum of therapy procedures under one concept -- the misconception hypothesis. For this reason it fails. It is seductive to translate different therapy techniques into other language systems and to explain their successes in our terms, whether it is Dollard and Miller pointing to learning theory, or Wolpe pointing to counterconditioning and desensitization as the reasons for improvement, or Raimy pointing to misconceptions. The error is that we try to explain too much and end up explaining too little. We fail to delineate the mediating mechanisms, and reification replaces a process analysis. Raimy's book is especially worthwhile for the description of Paul Dubois' pioneering work. For this and his effort we are in his debt.

Geoffrey Thorpe (Bangor Maine) and his colleagues have begun research on a component analysis of cognitive restructuring techniques. They compared a general insight group in the form of RET Therapy vs. specific insight vs. self-instructional rehearsal. The study permitted a comparison of the relative importance of attending to client's unproductive thinking versus the focusing on productive self-instructions. (Such a component analysis assumed importance because Thorpe (1975) had found that a CBM self-instructional training regimen was more effective than desensitization, behavioral rehearsal and placebo in treating assertive-refusal behavior.) The component analysis study indicated that general improvement was noted on self-report and behavioral measures in all groups and this was maintained at a three month followup. The differential group results suggested that insight into unproductive thinking was a more important ingredient than overt rehearsal of productive statements. In interpreting these results it is important to appreciate that the productive statements that were used in therapy focused on challenging irrational beliefs a la Ellis and differed from the problem solving-coping self-statements employed by Meichenbaum et al. (1971). There is a clear need to compare the importance of using different cognitive interventions.

The comparison of the Thorpe and Meichenbaum studies further highlights the range of alternative modes of cognitive intervention. A logical analysis indicates two important differential foci that can be translated into factorial studies. The foci involve, (1) how shall we treat the client's maladjustive behavior and (2) what shall we teach the client in terms of productive behaviors. Consider studies that would systematically compare treatments which focused on the client's irrational beliefs a la RET or Thorpe's general insight group versus a group which merely tried to have clients increase their awareness of negative self-statements and images without doing a rational analysis. Secondly, one could compare treatments that taught clients how to challenge irrational beliefs and taught different

belief statements a la Thorpe vs. a coping problem set of self-statements a la Meichenbaum, Novaco, etc.

D'Zurilla, Wilson and Nelson (1973) originally conceived of a placebo control group for a desensitization study. In the so-called placebo group the subjects were prompted to verbalize past experiences involving the feared stimuli and were provided with an understanding of the etiology of their fears in terms of learning theory rationales. The basic irrational fears underlying their anxiety were exposed, challenged, and a general "perceptual relearning" took place. This treatment turned out to be more effective than desensitization and when paired with graded exposure was most effective. In the article, the placebo treatment was relabeled cognitive restructuring. One man's placebo is another man's treatment! In line with a perceptual relearning approach a recent book that emphasizes this approach is Combs et al. (1976).

Ken Wein, Rosemary Nelson and Vernon Odom (Univ. No. Carolina, Greenshore) examined the components of D'Zurilla et al.'s cognitive restructuring technique. Wein et al. (1975) found that reattribution contributed significantly to treatment efficacy, more so than did a verbal extinction explanation. Consistent with results from several other studies, the comparison of the cognitive restructuring and desensitization treatment revealed that the two techniques were equally effective in reducing behavioral avoidance, but the cognitive approach was more effective in reducing subjective anxiety. "The findings also support the viewpoint that systematic desensitization could fruitfully be supplemented by procedures that directly deal with the subjective component of the fear response (p. 20)."

An interesting and perhaps promising way to study the interdependence of cognitions and emotions is to examine changes that occur as a result of experimentally induced mood manipulations. In this regard see references by Velten (1965), Strickland et al. (1975), Hale and Strickland (1976), and Goldfried and Sobocinski (1975). A useful way to conceptualize the mood states and accompanying emotional states that follow has been offered by Harris and Katkin (1975) who have made a distinction between primary and secondary emotional behavior. In the context of reviewing the social psychophysiological research on attribution of affect, false feedback, etc. (a la Valin's work) Harris and Katkin draw a distinction between emotional states that are and are not tied to visceral excitation. Many of the methodological problems in the false feedback literature seem applicable to the induced mood state literature. The full researchable impact of the induced mood paradigm has not been explored.

For an excellent historical perspective on the nature of emotion, and in particular, the relationship between cognition and emotion, see Averill (1974). A closely related, but current issue, is the role of cognitive factors in the new area of biofeedback training (see Lazarus, 1975; Meichenbaum, 1975; Schwartz, 1975).

In related research Thomas Schill (Southern Illinois Univ.) has examined the effects of different types of self-statements on a motor task such as mirror tracing. Following a trial of tracing but before three further trials subjects concentrated on rational sentences (e.g., "Mistakes don't mean I'm stupid. They give me a lot of

information which hopefully I can use to become better at this.) or on irrational sentences (e.g., "If I don't do this perfectly well next time it'll prove I'm stupid.) or neutral sentences (e.g., "Positioning movements are ones in which body parts move from one specific position to another."). The use of rational sentences resulted in significant reduction of errors and quicker performance while the irrational sentence group had the poorest performance. Interestingly there was no interaction between treatment effect and prior score on an irrational value scale.

Meyers et al. (1975) have highlighted the importance of teaching clients how to self-monitor cognitions. They use procedures such as modeling and rehearsal to increase self-monitoring skill. It is interesting to consider how we can use the induced mood manipulations (a la Velten, Strickland, Schill) as ways to enhance such self-monitoring skills. In this regard it may be interesting to examine the recent work on "self-awareness" by Duval and Wicklund (1972).

Irrational beliefs as contributors to maladaptive behavior play a central role in Ellis's RET treatment approach. Interest in this form of therapy continues to grow while systematic research on it lags behind. I reviewed in the first CBM newsletter several studies on RET. For those interested, I am told that Ron Murphy at the Ellis Institute is putting together a bibliography of RET outcome studies. Note that RET is only one way to conduct CBM.

Sol Tiegermann (Uniondale, New York), in an unpublished doctoral dissertation at Hofstra Univ., compared a cognitive RET approach with no behavioral components vs. an assertive training based on role-playing, modeling and behavioral homework assignments vs. a combined treatment vs. appropriate control groups. The major finding was that assertive training and the combined treatment were both significantly more effective than control groups in reducing interpersonal anxiety in college students. The RET treatment alone was less effective than the behavioral intervention plus RET. These results are consistent with those reported by Janet Wolfe (1975).

Maxie Maultsby (Univ. Kentucky) is an active practitioner and contributor to Rational Behavior Therapy of the Ellis variety and he also heads a pre- and post-doctoral training program in rational behavior therapy, for those who are interested. For a review of Maultsby's version of RET see Siegal (1976).

Hendrix and Meyer (in press) illustrate in a case study treatment of an exhibitionist how behavioral and cognitive treatments can be employed in a complementary fashion.

A skills-oriented stress inoculation CBM approach

A skills oriented CBM stress inoculation training procedure was developed by Meichenbaum (1975) to treat phobics. The treatment procedure combines behavioral training (e.g., relaxation) with cognitive training (imagery rehearsal, problem solving, and coping self-talk) in order to develop a set of skills that the client can use to handle a variety of stressors, as well as the phobic situation. A recent attempt to further assess the relative efficacy of the procedure with agoraphobics is described by J. Hawkrigg (Rochdale, England).

Perhaps the most exciting application of the stress-inoculation procedures has been offered by Ray Novaco (Univ. Calif., Irvine). I briefly described Ray's work on stress-inoculation training in the control of anger in the first CBM newsletter, pages 6-7. In a very active research program, Ray has taught law enforcement officers CBM techniques to control anger (Novaco, in press a), has developed a self-instructional client manual on anger and coping with provocation (Novaco, 1975a), has investigated the relationship between anger and depression (Novaco, 1975b) and is teaching probation officers to become CBM therapists to teach their patients anger control procedures. Ray's doctoral dissertation is now published (Novaco, 1975), also see Konecni (in press) review of it for an evaluation and list of needed research.

It should be highlighted that the CBM treatment adopted by Novaco is consistent with the analysis offered by Bandura (1973). Bandura's social learning formulation has identified many factors in the cognitive control of aggression and anger. Cognitive processes function in stimulus control, the guidance of behavior, the representation of reinforcement contingencies, and as problem-solving operations that influence the occurrence of aggression. Indeed, Novaco's CBM procedure has been most effective in changing the client's perception of a provoking stimulus situation to that of a problem to be solved rather than being viewed as a personal provocation. Recall the Goodwin-Mahoney study on aggressive children and the Camp think aloud program. Novaco's treatment formulations are important first steps. The question still remains, how are "normals" coping with anger?

Pat Lehman Olson (1974) adopted a somewhat different CBM approach for the treatment of anger. In an unpublished doctoral observation at Oklahoma State Univ. she confined the CBM treatment to an Ellis RET approach and compared it to appropriate control groups. The results were inconclusive. There is a substantial difference between the Olson and Novaco treatment approaches to anger; yet they both call themselves CBM procedures. This further reinforces the repeated caveat that we cannot impose a "uniformity" myth on CBM procedures.

In an interesting case study of an aggressive 16-year-old male, James McCullough et al. (1975) (Virginia Commonwealth Univ.) illustrate the potential of a CBM self-control treatment approach. They describe the goal of the program as teaching the client to avoid a loss of temper by training him to monitor his internal state and to provide himself with self-mediated alternative responses. To achieve this goal they employ a host of techniques including relaxation, thought stoppage, role playing, contracts, and environmental supports.

From anger to pain

"For a year I have been troubled by a morbid inclination and very painful stimuli which from other's descriptions of such symptoms I believe to be gout, so that I had to call a doctor. One night however, impatient at being kept awake by pain, I availed myself of the stoical means of concentration upon some different object of thought, such for instance as the name of 'Cicero' with its multifarious associations, in this way I found it possible to divert

my attention, so that pain was soon dulled.... Whenever the attacks recur and disturb my sleep, I find this remedy most useful."

So spoke the philosopher Immanuel Kant, as reported by Fulop-Miller, 1938 (p. 28). Although the image of Cicero may not serve the same function for us today, the potential of using a cognitive strategy of attention-diversion is highlighted. In our laboratory we (Dennis Turk, Myles Genest, Steve Struthers and myself) have been investigating the usefulness of a CBM approach for the treatment of pain. Initial reports of the usefulness of the procedures with experimentally induced ischemic pain has been offered elsewhere (Meichenbaum & Turk, in press; Meichenbaum et al., 1975). The research strategy includes extending the CBM procedure to various clinical pain populations ranging from acute episodic pain to chronic pain. The CBM approach is not offered as a panacea but rather as a useful adjunctive tool available to clients to handle or cope with the pain when it is most intense. The skills program includes learning relaxation, imagery techniques, self-talk strategies, attention diversion procedures, etc. The client is seen as a collaborator in picking and choosing those techniques which work best for him. A detailed therapy manual is in preparation as well as a biblio-audiotape therapy for patients. We are comparing different types of bibliotherapy, for example, coping vs. mastery. A coping bibliotherapy would incorporate any kinds of thoughts the reader might have which would negate the essence of the information offered. Given that most patients with pain, depression, anger, etc. are seen by GPs who don't expend much time for counseling, we need to be able to package treatments that can be used in this setting. The recent burgeoning research on self-help manuals are in this tradition.

Recently Glasgow and Rosen (1975) have compiled a summary chart of current self administered behavior therapy manuals covering a variety of disorders. Another aspect of the ongoing research is to develop a prototypic picture of the cognitive and personality characteristics of subjects who fail to tolerate pain (e.g., in a cold pressor test). We are developing various process measures of cognitive-behavioral strategies which subjects employ. Once these procedures are developed we can then extend them to pain patients.

A very active area of CBM research has been the differential effect of various specific cognitive strategies on experimentally induced pain, for example, see recent studies by Grimm and Kanfer (in press), Chaves and Barber (1974), Langer et al. (1975), Spanos et al. (1975), and Levendusky and Pankratz (1975). With regard to the Levindusky article see the accompanying articles in the Journal of Abnormal (1975) 84, 169-180) on ethical issues.

Since I mentioned Immanual Kant it may be of interest to examine Ansbacher (1965), who draws the comparison between Kant, Adler, and Sullivan. For the scholarly inclined, see Kant's original lecture of 1798 entitled "On the weakness and illness of the soul in regard to its cognitive ability". Have we progressed that much?

The possibility of CBM procedures contributing to prophylactic intervention is quite exciting. At the Stanford heart disease prevention program Dr. Stewart Agras and his colleagues are exploring a multifaceted treatment approach, including education (see Maccoby, and Farquhar, 1975), exercise, dietary changes and behavior

modification (Meyer & Henderson, 1974). A major problem in such prevention program is how to motivate individuals to change their learned life-style habits. In this regard Joyce Nash (Stanford) has developed an exercise manual that places much emphasis on the individual's cognitions as a contributor to motivational changes. Consistent with the spirit of stress-inoculation training are articles by Brown (1975) and Foser and King (1975).

Richard Suinn (Colorado State) has used an anxiety management training (AMT) procedure to treat individuals prone to cardiac disease. The AMT procedure teaches individuals to recognize the use of anxiety coping behaviors. It includes teaching relaxation and imagery coping techniques. The subject is instructed to develop anxiety arousal to a high level and then to control the arousal. Suinn (1975) reviews other studies on AMT as well as its application for Type A persons, a la Friedman and Rosenman (1974).

Finally, Epstein (1967) some time ago had discussed the possibility of paced mastery of various stressors. He pointed out that by learning to control impulses at different intensities the individual acquires a defense system and adaptive skills that he can employ in many situations. The present stress inoculation approach is consistent with Epstein's formulation. Indeed, I am reminded of the quote by Orne (1965) which further underscores the possibility of preventative treatment:

"One way of enabling an individual to become resistant to a stress is to allow him to have appropriate prior experience with the stimulus involved. The biological notion of immunization provides such a model. If an individual is given the opportunity to deal with a stimulus that is mildly stressful and he is able to do so successfully (mastering it in a psychological sense) he will tend to be able to tolerate a similar stimulus of somewhat greater intensity in the future.... It would seem that one can markedly affect an individual's tolerance of stress by manipulating his beliefs about his own performance in the situation.... and his feeling that he can control his own behavior (pp. 315-316)."

Stress-inoculation or a CBM immunization procedure could be applied to a number of different stressed populations such as divorcees, police, child abuse parents, military combatees, high stressed civilian populations, etc.

A confluence of interests

As therapists of various persuasions come to appreciate the role of cognitions in the behavioral change process, dialogue between different schools may begin. What was once regarded as substantially different therapy approaches, may now be examined for areas of overlap and mutual exchange. In this regard, see David Wexler's (1975) analysis of the Rogerian non-directive therapy approach from a cognitive view or Judd Marmor (1967) and Thomas Szasz's (1974) discussion of psychoanalytic treatment as educational processes or Paul Wachtel's (1976) attempt to integrate psychoanalysis and behavior therapy. Perhaps we are entering a period of psychological detente.

Within a Rogerian framework an example of how CBM approaches can be employed to teach empathy skills was described in the first CBM

Newsletter, p. 4-5 (see study by Ochiltree et al. (1975). More recently David Cabush and Keith Edwards (Rosemead, Calif.) have used a Carkuffian training format to alter the client's internal dialogues and to develop self-help skills (1976). A comparison of the Ochiltree and Cabush studies illustrates two different therapy approaches to teach empathy skills and alter cognitions and behaviors. Should we explicitly teach self-instructional statements a la Ochiltree or rather should we provide the conditions under which such cognitive changes naturally come about? Moreover, how can we combine the two approaches to be most effective? Recall that a similar question was raised when I discussed the Labouvie-Gonda study with the aged. How should we balance discovery learning and explicit self-instructional training? As Cabush & Edwards comment, "training the client to employ a process of self-verbalization which facilitates self-exploration *in vivo* is likely to lead to the insight necessary to construct efficient coping strategies. (p. 12)".

Of scientists and athletes

As mentioned earlier the attention of CBM therapists have recently been focused on two new populations, one scientists, the other athletes. (Beware the athletic scientist!) A series of studies conducted at Penn. State by Mike Mahoney and his colleagues has found that the belief systems of scientists are often no more rational than those of their non-scientific colleagues. Among their findings have been: (1) many scientists have very poor problem solving skills; (2) scientists have a tendency to form their beliefs rapidly and based on meager data; (3) once they have developed an hypothesis some scientists are very tenacious and will not abandon it even in the face of contradictory evidence; and (4) both scientists and nonscientists tend to share a proclivity for selectively seeking out data or experiences which support (confirm/rather than challenge) their beliefs. (See Mahoney, 1976 for further details or attend your next local convention.)

Bob DeMonbreum (Atlanta, Ga.) conducted a recent study on tenacity of personal beliefs. Using a laboratory analogue task, he found that subjects were relatively unaffected by different temporal patterns of data returns (i.e., early positive, early negative, or random). Even though half of their feedback suggested that they were wrong, subjects were quite tenacious in clinging to their first hypothesis. Moreover, when they were told that some of their correctness feedback would be invalid, subjects tended to rate "success" trials as valid and "failure" trials as invalid. When did evidence ever get in the way of science anyway? (see Brush, 1974; Hebb, 1975)

Now to athletes.

Ski-racers, gymnasts, golfers, and figure skaters have each been subjected to CBM procedures. For example, William Anderson and his colleagues at Columbia Univ. have explored the use of cognitive practice with golfers and the use of self-monitoring and social feedback in physical fitness class. Richard Suinn (Colorado State) used rehearsal training with skiers (1972), while Mahoney (Penn. State) explored the cognitive strategies of gymnasts. My own involvement in sport psychology is an informal study of what goes

through the minds of novice and expert figure skaters right before they are about to perform. Take an athlete to lunch and interview him or her about his CBM strategies. Given that most athletic events entail learned behaviors and complex skill chains it provides an interesting opportunity to discover what happens to cognitions with the acquisition of skills. Work by de Groot on novice and professional chess players similarly provides interesting data.

These comments about changes in cognitions with proficiency lead me to describe my current fantasy -- a fantasy that will hopefully lead us out of the mire of atheoretical CBM research. For some, my fantasy will be perceived as a potential nightmare, while hopefully for others it will stimulate your own daydreams.

I call my fantasy cognitive ethology. In our lab we have been exploring for several years a number of different ways of assessing our clients' and subjects' internal dialogues, self-statements and images -- in short their intrapersonal communication systems. Like the behavioral ethologist who follows the flight of birds, noting releasing stimuli, fixed action patterns, etc., I feel we must develop a similar technology for studying thinking. I describe this research in a forthcoming book on CBM, but for now let me merely mention some of the procedures used and references I have found helpful. Perhaps I can nurture your daydreaming.

The techniques we have employed include: (1) studying children's natural occurrence of private speech (Meichenbaum & Goodman, in press); (2) having subjects talk aloud while doing tasks -- in this regard see a very important book by Bloom and Broder (1950) and a recent paper by Goor and Sommerfeld (1975). A somewhat different approach has been adopted by Klinger (1974); (3) assessing client's internal dialogue on questionnaires immediately following specific behavioral acts (Schwartz and Gottman, 1975 self-statement tests) or using a videotape of a subject as a TAT to reconstruct internal dialogue (Meichenbaum 1975 CBM assessment chapter) -- in this regard don't forget that it is reconstruction and we must deal with the Heisenberg principle of behavior which I mentioned earlier; (4) assessing clients' internal dialogues by means of specific interview procedures (e.g. see Novaco's and Beck's interview formats); (5) having client's monitor internal dialogues whenever they occur. Parenthetically, I realize that many patients report that they do not have such dialogues. This surely is an important individual difference dimension.

We need research to compare these different methods of monitoring thought. Interesting questions arise when you adopt not only a descriptive approach to the communication systems but a functional approach (see Meichenbaum and Goodman, in press). How does the mental act change with skill, with the development of proficiency, how does it relate to ongoing performance? Initial but unsatisfactory answers to these questions may be found in Gal'perin (1969), Kimble and Perlmutter (1970) and the work by Tompkins (1970) and LaBerge (1974) on miniaturization on automatism respectively. I feel the work on cognitive ethology will lead CBM treatment approaches back to Janet's definition of the unconscious as "automatism" -- a view of the unconscious that psychology never really developed. But I am getting into next year's newsletter.

Finally, since I have criticized CBM therapists and researchers for eschewing theory, my criticisms could apply to the field of

cognitive psychology in general. For a somewhat reassuring appraisal (at least comforting to a clinician) see Alan Allport's (1975) assessment of the state of cognitive psychology, in the form of a book review. Whether our experimental colleagues are trying to understand the rat's learning avoidance behavior (see Bolles, 1975) or learning theory (see McKeachie, 1974) or visual information processing (see Allport's review) the absence of our understanding of the nature of the "cognitive" processes involved is indeed humbling.

Steven Kopel and Hal Arkowitz (1975) have explored the implications for behavior therapy of work on attribution and self-perception theory. They conclude that in order to balance concerns for initial treatment effects with concerns for maintenance and generalization the actual or perceived role of external factors in behavior change should be minimized while "self" aspects of behavior change should be maximized. It is articles such as that by Kopel and Arkowitz, and others reviewed in this newsletter, that caused Fred Kanfer to write: "If a practitioner of behavior therapy had decided to take a long leave of absence in 1965, he would be astonished and confused if he returned today. The flood of books and articles on behavior modification contains contradictions and complexities that represent many of the same problems which the systematic position of the conditioning therapies had attempted to avoid. For example, the use of self-reports for assessment and treatment, the methods designed to alter thinking and imagery, the concern with the client's self-attitudes and motivation to change, and the stress on the patient's self-management of the treatment program are new ingredients of behavior therapy (1976, p. 1)". To this we say amen and wonder what the CBM therapist who goes on extended leave today will find in ten years.

I began this issue of the newsletter with a quote from Neal Miller: let me conclude with a quote from George Miller:

"My major interest in psychology has been in research on psychological aspects of language and communication. Because our uniquely human capacity for speech is continually in my mind, I can never approach questions of behaviour control without remembering that the most precise technique we have for behavior control is human language. This "technique" can cause you to do things you would never think of doing otherwise. It can change your opinions and beliefs. It can be used to deceive you. It can make you happy or sad. It can put new ideas in your head. It can make you want things you do not have. You can even use it to control yourself." (Miller, 1970, p. 999, emphasis added)

ADDENDA

Followers of CBM will benefit from looking at book reviews by Baker et al. (1975) on Mahoney's book Cognition and Behavior Modification, and Kopel's (1975) review of London and Nisbett's book Thought and feelings: Cognitive alteration of feeling states and find interesting Abraham Low's book on will training.

Finally, the issue has arisen why a new term such as cognitive-behavior therapy. Won't we soon have autonomic-behavior therapy or affective-behavior therapy, etc.? As Tryon (1975) has argued doesn't

novel terms like cognitive-behavior therapy obfuscate important continuities with conditioning in general and suggest that principles inconsistent with conditioning are required. I disagree that the introduction of CBM contributes to "obfuscation", but the research reviewed in the two CBM newsletters do argue that "principles other than conditioning are required". The purpose of this newsletter is to foster the search for these principles.

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